

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims: Please amend the claims as follows:

We claim:

Claim 1. (Previously Presented) A method for the sequential production of partial proteomes from a complete proteome of a cell preparation comprising:

- a) providing a sample containing a cell preparation,
- b) extracting the cytosolic proteins and the membrane/organelle proteins from the sample provided in step a), leaving a cell nucleus preparation, and
- c) extracting the proteins from the cell nucleus interior from the preparation obtained in step b) by treating with an extraction buffer having a pH of between 6.5 and 8 which comprises:
 - in total from 0.1 to 7 per cent by weight of one or more nonionic detergents,
 - in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives, and
 - one or more salts of alkali metal and/or ammonium in a total concentration of between 75 and 500 mmol/l,

wherein detergent-resistant proteins of the cytoskeleton and of the nuclear matrix are not extracted to a significant extent together with the proteins from the cell nucleus interior, but instead remain in the extraction residue.

Claim 2. (Currently Amended) A method according to Claim 4 21, wherein the extraction buffer employed in step c) additionally comprises a nuclease.

Claim 3. (Currently Amended) A method according to Claim 4 21, wherein the extraction buffer employed in step c) comprises polyoxyethylene sorbitan monopalmitate as nonionic detergent, deoxycholate as cholic acid derivative and NaCl as alkali metal salt.

Claim 4. (Currently Amended) A method according to claim 4 21, wherein step b) comprises:

- b i) extracting the cytosolic proteins from the sample provided in step a) by selective permeabilization of the plasma membrane without significantly impairing the integrity of the subcellular membrane/ organelle structures, the cell nucleus and the cytoskeleton.
- b ii) extracting the membrane/organelle proteins from the part of the sample remaining after the extraction in step b i) with retention of the structural integrity of cell nucleus and cytoskeleton.

Claim 5. (Currently Amended) A method according to Claim 4 21, wherein the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix are, in an additional method step d), extracted as a further partial proteome from the extraction residue remaining in step c).

Claim 6. (Previously Presented) A protein extraction kit at least containing an extraction buffer having a pH of between 6.5 and 8 which further comprises:

- in total from 0.1 to 7 per cent by weight of one or more nonionic detergents
- in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives
- one or more salts from the group consisting of the ammonium and/or alkali metal salts in a total concentration of between 75 and 500 mmol/l.

Claim 7. (Previously Presented) A kit according to claim 6, additionally containing a nuclease.

Claim 8. (Previously Presented) A kit according to claim 6, additionally containing a buffer for extraction of the cytosolic proteins and/or the membrane/organelle proteins from cell preparations and a buffer for extraction of the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix.

Claim 9. (Currently Amended) A method of claim 4 21 wherein step b) comprises treatment of with a non-ionic detergent or a zwitterionic detergent under mild conditions.

Claim 10. (Previously Presented) A method of claim 9, wherein said detergent comprises octylphenoxypolyethoxyethanol or polyethylene glycol p-isooctyl phenyl ether.

Claim 11. (Currently Amended) A method of claim 4 21, wherein said extraction buffer has a pH of between 6.9 and pH 7.8.

Claim 12. (Previously Presented) A kit of claim 6, wherein said extraction buffer has a pH of between 6.9 and pH 7.8.

Claim 13. (Currently Amended) A method of claim 4 21, wherein said extraction buffer comprises MOPSO, BES, MOPS, phosphate or PIPES at a concentration from between 2 and 100 mM.

Claim 14. (Previously Presented) A kit of claim 6, wherein said extraction buffer comprises MOPSO, BES, MOPS, phosphate or PIPES at a concentration from between 2 and 100 mM.

Claim 15. (Currently Amended) A method of claim 4 21, wherein said non-ionic detergent comprises 0.2 and 5% by weight of polyoxyethylene sorbitan monopalmitate and said cholic acid derivative comprises 0.1 to 2.5% by weight of Na deoxycholate.

Claim 16. (Previously Presented) A kit of claim 6, wherein said non-ionic detergent comprises 0.2 and 5% by weight of polyoxyethylene sorbitan monopalmitate and said cholic acid derivative comprises 0.1 to 2.5% by weight of Na deoxycholate.

Claim 17. (Currently Amended) A method of claim 4 21, wherein said extraction buffer comprises 10 mM PIPES, 1% by weight of polyoxyethylene sorbitan monopalmitate, 0.5% by weight of Na deoxycholate and 350 mM NaCl.

Claim 18. (Previously Presented) A kit of claim 6, wherein said extraction buffer comprises 10 mM PIPES, 1% by weight of polyoxyethylene sorbitan monopalmitate, 0.5% by weight of Na deoxycholate and 350 mM NaCl.

Claim 19. (Previously Presented) A method of claim 2, wherein said nuclease is an endonuclease from *Serratia marcescens*.

Claim 20. (Previously Presented) A kit of claim 7, wherein said nuclease is an endonuclease from *Serratia marcescens*.

Claim 21. (New) A method for the sequential production of partial proteomes from a complete proteome of a cell preparation comprising:

- a) providing a sample containing a cell preparation,
- b) extracting the cytosolic proteins and the membrane/organelle proteins from the sample provided in step a), leaving a cell nucleus preparation, and
- c) extracting the proteins from the cell nucleus interior from the preparation obtained in step b) by treating with an extraction buffer having a pH of between 6.5 and 8 which comprises:
 - in total from 0.1 to 7 per cent by weight of one or more nonionic detergents,
 - in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives, and
 - one or more salts of alkali metal and/or ammonium in a total concentration of between 75 and 500 mmol/l,

wherein the extract obtained in step c) is a partial proteome enriched with proteins from the cell nucleus interior.

Claim 22. (New) A method of claim 22 wherein the partial proteome comprises histone and/or non-histone proteins.

Claim 23. (New)

A method of claim 22 wherein the partial proteome comprises HMG proteins, transcription factors, RNA binding proteins, and/or skeleton proteins of the cell interior.